

Review of the type material of Indo-West Pacific genus *Crassatina* (Mollusca: Bivalvia: Crassatellidae) with a description of two new species

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Abstract

The type material of eight Recent species of *Crassatina* is reviewed and illustrated. Two new species are described, *Crassatina rikai* n. sp. and *Crassatina suduirauti* n. sp., both from the Philippines, with the latter also known from northern Australia. All species occur in the Indo-West Pacific. Lectotypes are selected for *Crassatina ziczac* (Reeve, 1842), *Crassatina picta* (Adams & Reeve, 1850), *Crassatina corrugata* (Adams & Reeve, 1850), *Crassatina nana* (Adams & Reeve, 1850), *Crassatina pallida* (Adams & Reeve, 1850) and *Crassatina banksii* (Adams & Angas, 1863). *Talabrica* Iredale, 1924 is placed in the synonymy of *Crassatina* Kobelt, 1881. *Chattonia* Marwick, 1928 and *Salaputium* Iredale, 1924 are considered valid genera.

Introduction

An overview of crassatellid genera has been given by Chavan (1969) and Australian Crassatellidae were reviewed by Slack-Smith (1998). Of the three extant genera known from Australia, *Eucrassatella* Iredale, 1924 was revised by Darragh (1964), whereas *Talabrica* Iredale, 1924 and *Salaputium* Iredale, 1924 were treated by Lamprell and Whitehead (1992), Healy and Lamprell (1992) and Lamprell and Healy (1998). Tertiary species in the genus *Crassatella* Lamarck, 1799 were revised by Darragh (1964), whereas species of *Spissatella* Finlay, 1926 were treated by Pritchard (1903) and Darragh (1965). The present paper names two new species of the genus *Crassatina* Kobelt, 1881 and records the genus for the first time in Australian waters. The previously named Indo-Pacific species of *Crassatina* are reviewed herein and type specimens illustrated. Other crassatellid genera in the Indo-Pacific region include *Salaputium* Iredale, 1924, *Bathytormus* Stewart, 1930, *Chattonia* Marwick, 1928 and *Cypricardella* Hall, 1858, with both Tertiary and Recent species, and *Pachythaerus* Conrad, 1869, *Anthonya* Gabb, 1864 and *Oriocrassatella* Etheridge, 1907, with only Tertiary representatives.

Materials and methods

Institutional abbreviations and text conventions

- AMS The Australian Museum, Sydney
- BMNH The Natural History Museum, London
- CSIRO Commonwealth Scientific and Industrial Research Organisation
- KL Lamprell collection, presented to the Queensland Museum
- MNHN Muséum National d'Histoire Naturelle, Paris
- QM Queensland Museum, Brisbane
- lv left valve
- pv paired valves
- rv right valve

*Deceased 24 June 2003.

Shell dimensions

For all material examined, length is the greatest distance between the anterior and posterior extremities, height was measured vertically from the umbo to the ventral margin and total width (inflation or breadth) is the greatest distance between the external surfaces of the paired valves. Unless otherwise stated, measurements are given for the largest specimens examined.

Taxonomy

Family CRASSATELLIDAE Férussac, 1822

Subquadrangular to trigonal, ovate anteriorly, truncated posteriorly. Concentrically ribbed to smooth. Ligament internal in pit, obliterating upper part of posterior cardinal tooth in left valve, narrow marginal nymphal ridge behind pit (modified from Chavan 1969).

Subfamily CRASSATELLINAE Férussac, 1822

Umbones prosogyrous or orthogyrous; cardinal teeth divergent. Resilium well developed (modified from Chavan 1969).

Genus *Crassatina* Kobelt, 1881

Type species: *Crassatella triquetra* 'Sowerby, 1843' = Reeve, 1842, by original designation.

Synonym: *Talabrica* Iredale, 1924: 204. Type species *Crassatella aurora* A. Adams & Angas, 1864; by original designation. New synonymy.

Description

Subtrigonal to subquadrate, small to moderate size (6–30 mm); umbones prosogyrous. Lunule and escutcheon narrow. Right valve with two cardinal teeth anterior to resilifer on prominent hinge plate; anterior cardinal tooth weak, short, confluent with anterodorsal margin below lunule; posterior cardinal tooth strong, transversely ridged on both faces. Two lateral teeth, anterior short, strong, separated from anterodorsal margin by groove; posterior lateral tooth twice length of anterior tooth, weak, confluent with posterodorsal margin. Left valve with two strong cardinal teeth anterior to resilifer, transversely ridged on inner faces, hinge plate prominent. Two lateral teeth, posterior short, weak, confluent with anterodorsal margin; posterior lateral tooth strong, separated from posterodorsal margin by groove. Internal margin finely crenulate.

Remarks

Iredale (1924) proposed the names *Talabrica* for the finely ribbed species *Crassatella aurora* A. Adams & Angas, 1863 and *Salaputium* for the coarsely ribbed *Crassatella fulvida* Angas, 1871 without clearly defining diagnostic characters of either genus. Shell macrosculpture appears to be the primary reason for Iredale's separation of the two genera. Cotton (1961) separated *Talabrica* and *Salaputium* from other Crassatellidae on the basis of shell size alone. Species that have been placed in *Talabrica* and *Salaputium* have diverse ornamentation and size. Species of *Salaputium* differ from *Crassatina* and *Talabrica*, in having a relatively small resilial pit and a vertical, discontinuous posterior cardinal tooth (Fig. 1B). The similarity of the hinge characters, including the anteriorly oblique, continuous posterior cardinal tooth and larger resilial pit in both *Crassatina* and *Talabrica* species (Fig. 1A, C), suggest that separation of these latter two genus-group names is not warranted.

Species previously assigned to *Talabrica* are *Talabrica aurora* (A. Adams & Angas, 1864), Tasmania and Victoria, *Talabrica fulvida* (Angas, 1871), New South Wales

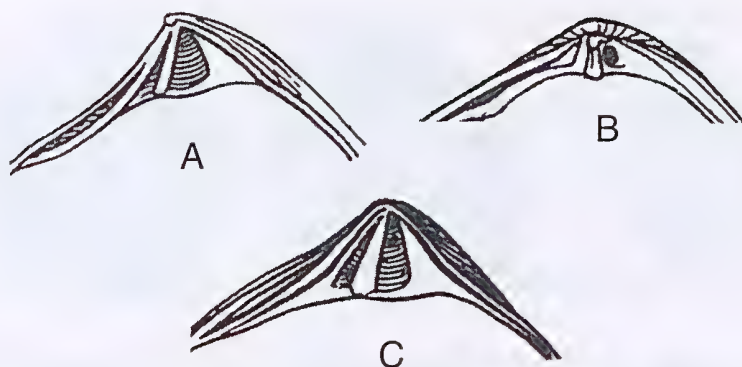


Fig. 1. Right valve hinges. A, *Crassatina* sp. cf. *bronni* (Wood); B, *Salaputium fulvidum* (Angas); C, *Talabraca aurora* (Adams and Angas) (slightly modified from Chavan 1969).

(Lamprell and Whitehead 1992: pl. 27, figs 177, 179) and *Talabraca donharrisi* (Healy & Lamprell, 1992: 95), Queensland. These taxa are not dealt with further in this review.

Although Chavan (1969) used *Chattonia* as a subgenus of *Crassatina*, *Chattonia* is treated here as a distinct genus for species with smooth valve margins and in which the ligamentary ridge and posterior laterals are separated (valve margins crenulate and ligamentary ridge in prolongation of the laterals in *Crassatina* species).

Crassatina suduirauti n. sp.

Fig. 2A–C, Table 1

Crassatina ziczac Slack-Smith, 1998: 326, fig. 8, 14E (not Reeve, 1842).

Material examined

Holotype. Philippine Islands, S of Balingasag Island, 8°45'N, 124°47'E, 0.5 km, 160–180 m, E. Guillot de Suduiraut, 1997, sand, in tangle nets, AMS C.400939 (1pv).

Paratype. Same data as holotype, MNHN (1pv); CSIRO Stn 40, 18°83.4'S, 147°70.2'E, N Queensland, 60 m, 4 Sep. 1997, BMNH 20010209 (1pv); CSIRO stn 41, 18°82.2'S, 147°69.8'E, 70 m, N Queensland, 4 Sep. 1997, QM MO.69798 (1pv).

Other material examined. **Philippine Islands.** Bohol Island, marrow collection, purchased from dealer (1pv). **Australia.** CSIRO stn 44, 18°80'S, 147°74'E, 62 m, N Queensland, 9 Apr. 1997, KL (1pv); CSIRO stn 51, 18°90.2'S, 147°88.1'E, 76 m, N Queensland, 9 Apr. 1997, KL (1pv); trawled off Pompey Reef, N of Swains Reef, Queensland, KL, from dealer (1pv, 1lv).

Description

Shell moderately large for genus, to 26 mm in length. Sub-quadrate, solid, equivalve, moderately inflated, inequilateral; umbones situated anteriorly, prosogyrate; anterodorsal margin short, narrowly rounded terminally; ventral margin very slightly convex, very narrowly rounded at posterior termination; posterior margin vertical, straight, angulate at posterior dorsal termination; posterodorsal margin slightly convex. Lunule narrow, impressed, lanceolate, radially striate. Ligament impressed, radially striate, defined by strong surrounding posterodorsal ridge; well-defined furrow extends from umbones to one-third of posterior margin. Sculpture of numerous, coarse, flattened concentric ribs (36+), interstices narrow, terminating at posterodorsal ridge. Anterior muscle adductor scar reniform, posterior adductor scar ovate. Pallial line well defined, pallial sinus diminutive.

Table 1. Shell dimensions of type material of *Crassatina suduirauti* n. sp.

	Length (mm)	Height (mm)	Width (pv) (mm)
Holotype			
AMS C.400939	24.5	21.0	14.3
Paratypes			
MNHN	26.0	23.0	13.9
BMNH 20010209	21.0	17.9	10.5
QM MO.69798	19.2	16.5	9.5

Internal margin densely crenulate, stronger ventrally. External colour white with orange tent-shaped markings and two radial rays of broken brown markings and unbroken lines extending medially from ventral margin to umbones; lunule and escutcheon with rose-coloured stitch-like patterned rays. Internally white with oblique rose ray posteriorly.

Distribution and habitat

Philippine Islands and Queensland, 60–180 m, in coarse sand.

Remarks

Crassatina suduirauti n. sp. is similar to *Crassatina ziczac* (Fig. 2*G–I*) in size and habitat, differing in its more quadrate profile (rather triangular in *C. ziczac*), the wider, straighter posterior margin, the straight to slightly convex ventral margin and the more anteriorly situated umbones (almost central in *C. ziczac*). *Crassatina picta* (Fig. 2*J–L*) has much coarser commarginal sculpture, centrally situated umbones and a strongly convex ventral margin (anteriorly situated umbones and straight to moderately convex ventral margin in *C. suduirauti*). *Crassatina nana* (Fig. 3*D–F*) is more ovate in profile and lacks the angulate outline of *C. suduirauti*. *Crassatina corrugata* (Fig. 3*A–C*) is similar to *C. suduirauti* in shape, but can be readily separated by the coarse, corrugated sculpture (coarse, flattened ribs in *C. suduirauti*).

Etymology

Named for E. Guillot de Suduiraut who donated material used in the present study.

Crassatina rikae n. sp.

Fig. 2*D–F*, Table 2

Material examined

Holotype. Aliguay Island, 8°35'N, 123°20'E, N of Dipolog, N Mindanao, Philippine Islands, R. De Donder-Goethaels, 150–300 m, trawled by pan-boats, Jun. 2000, AMS C.400938 (1pv).

Paratypes. Same data as holotype QM MO.69799 (2 pv); BMNH 20010208 (1pv), AMS C.204868 (1pv); MNHN (2pv); KL (11pv).

Description

Shell small, to 14.7 mm in length. Sub-quadrate, solid, equivalve, inequilateral, umbones situated anteriorly; moderately inflated; prosogyrate; anterodorsal margin short, narrowly rounded terminally; ventral margin very slightly convex, very narrowly rounded at

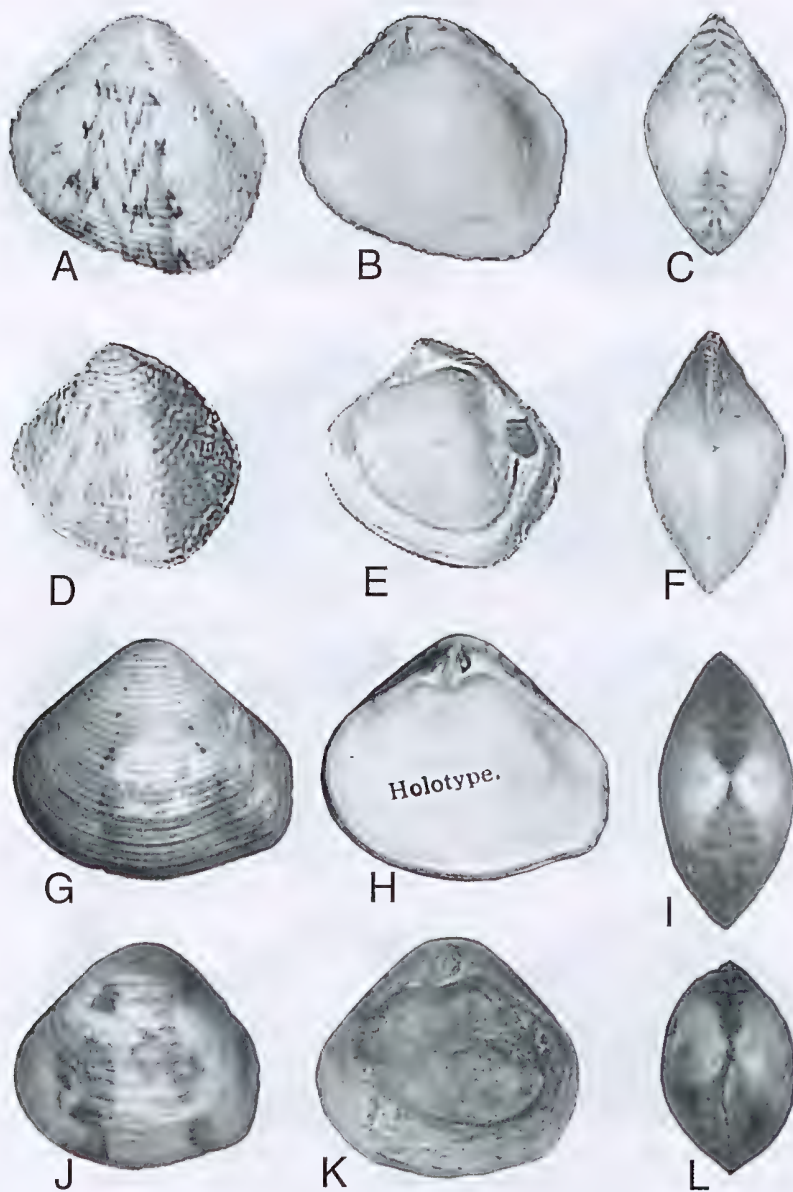


Fig. 2. A–C, *Crassatina suduirauti* n. sp. Holotype, length 24.5 mm, height 21.0 mm, width pv 14.3 mm. A, External view of lv; B, internal view of rv; C, dorsal view of pv (AMS C.400939). D–F, *Crassatina rikae* n. sp. Holotype, length 14.6 mm, height 13.6 mm, width pv 8.3 mm. D, External view of lv; E, internal view of rv; F, dorsal view of pv (AMS C.400938). G–I, *Crassatina ziczac* (Reeve, 1842). Lectotype, length 25.5 mm, height 20.3 mm, width pv 2.4 mm. G, External view of lv; H, internal view of rv; I, dorsal view of pv (BMNH 1953.4.15.5). J–L, *Crassatina picta* (Adams & Reeve, 1850). Lectotype, length 16.1 mm, height 14.7 mm, width pv 10.3 mm. J, External view of lv; K, internal view of rv; L, dorsal view of pv (BMNH 1996439/1).

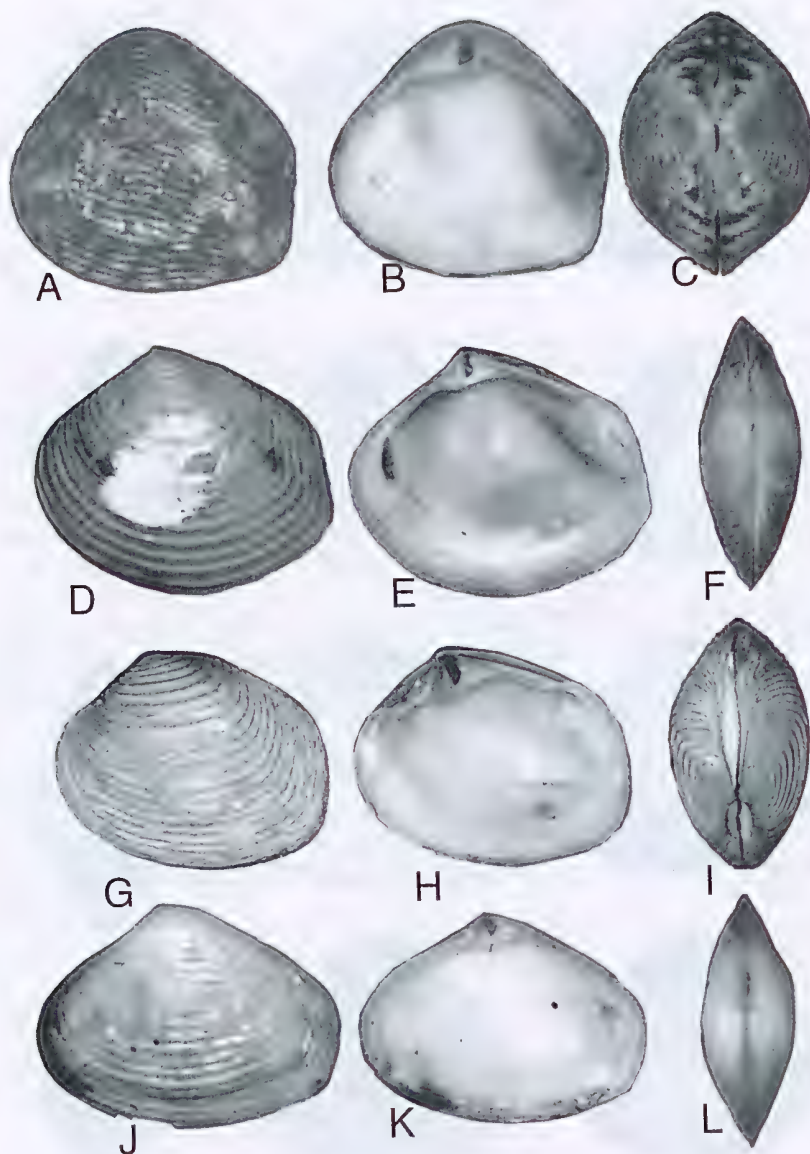


Fig. 3. A–C, *Crassatina corrugata* (Adams & Reeve, 1850). Lectotype, length 18.6 mm, height 17.2 mm, width pv 13.5 mm. A, External view of lv; B, internal view of rv; C, dorsal view of pv (BMNH 20010401). D–F, *Crassatina nana* (Adams & Reeve, 1850). Lectotype, length 16.6 mm, height 14.3 mm, width pv 6.1 mm. D, External view of lv; E, internal view of rv; F, dorsal view of pv (BMNH 1878.10.16.8 (Pt)). G–I, *Crassatina pallida* (Adams & Reeve, 1850). Lectotype, length 28.1 mm, height 22.5 mm, width pv 15.5 mm. G, External view of lv; H, internal view of rv; I, dorsal view of pv (BMNH 20010402). J–L, *Crassatina banksii* (Adams & Angas, 1863). Lectotype, length 16.3 mm, height 12.0 mm, width pv 6.4 mm. J, External view of lv; K, internal view of rv; L, external view rv.

Table 2. Shell dimensions of type material of *Crassatina rickae* n.sp.

	Length (mm)	Height (mm)	Width (pv) (mm)
Holotype			
AMS C.400938	14.6	13.6	8.3
Paratypes			
AMS C.204868	14.5	13.5	8.5
BMNH 20010208	15.2	12.5	7.9
QM MO.69799	12.5	11.3	7.0
MNHN	12.8	11.8	7.5
	14.5	12.4	8.9
	12.6	11.2	7.0

posterior termination; posterior margin vertically straight, angulate at posterodorsal termination; posterodorsal margin slightly convex. Lunule impressed, widely lanceolate, radially striate. Ligament impressed, radially striate, defined by strong surrounding posterodorsal ridge. Sculpture of numerous (24+) coarse, flatly rounded, upturned concentric ribs, interstices approximately half the width of concentric ribs, becoming obscure at the posterior one-third of the shell. Anterior adductor scar reniform, posterior adductor obovate. Pallial line well defined, pallial sinus diminutive. Internal margin weakly but densely crenulate, stronger ventrally. Externally white, with broken radial orange rays extending from umbones to ventral margin, posterior one-third rose coloured, sometimes with concentric darker orange rays and white background; lunule white; escutcheon rose coloured. Internally white, rose posteriorly, some external colour visible internally.

Distribution and habitat

N Mindanao, Philippine Islands, 150–300 m.

Remarks

Crassatina rickae n. sp. is most similar to *Crassatina suduirauti* (Figs 1A–C), in shape and colour. The sharper, narrower umbones in *C. rickae* and the widely lanceolate, as opposed to narrowly lanceolate, lunule are characteristics that separate *C. suduirauti* from *C. rickae*. *Crassatina rickae* has 24+ coarse, weakly rounded, upturned concentric ribs with interstices approximately half the width of the ribs, which become obscure at the posterior one-third of the shell, whereas *C. suduirauti* has numerous, coarse, flattened concentric ribs (36+) with narrow interstices terminating at the posterodorsal ridge. The lack of the rose stitch-like pattern posteriorly at the escutcheon and the medial pattern in *C. suduirauti* also help to separate the species. *Crassatina rickae* can be readily separated from other *Crassatina* species by its more quadrate shape and much smaller size.

Etymology

Named for Mrs Rika De Donder-Goethaels, who supplied material used in the present study.

Table 3. Shell dimensions of type material of *Crassatina ziczac* (Reeve, 1842)

	Length (mm)	Height (mm)	Width (pv) (mm)
Lectotype			
BMNH 1953.4.15.5	25.5	21.8	12.5
Paralectotypes			
BMNH 1953.4.15.6-7	26.6	20.3	12.4
	22.5	19.9	11.5

Crassatina ziczac (Reeve, 1842)

Fig. 2*G–I*, Table 3

Crassatella ziczac Reeve, 1842: 45; Reeve, 1843: 1, pl. 3, fig. 13.

Material examined

Holotype. Island off Corrigidor, Philippine Islands; specimen figured by Reeve, here selected as lectotype (Fig. 2*G–I*, specimen marked internally ‘holotype’ BMNH 1953.4.15.5; 1pv).

Paralectotypes. Same data as lectotype, BMNH 1953.4.15.6–7; two unfigured syntypes.

Diagnostic characteristics

Shell length to 26.6 mm. Trigonal, solid, equivalve, equilateral, umbones situated centrally, moderately inflated, narrowly rounded, prosogyrate; antero- and posterodorsal margins of equal length, steeply sloping, rounded anteriorly, angulate posteriorly; ventral margin convex, sharply rounded at posterior termination; posterior margin vertically straight. Lunule long, lanceolate, radially striate, impressed. Ligament radially striate, impressed, defined by strong surrounding posterodorsal ridge. An ill-defined furrow extends from umbones to ventral margin, terminating at posterior angulate margin. Sculpture of numerous (37+) low, rounded, upturned concentric ribs, interstices of equal width. Anterior muscle adductor scar reniform, posterior adductor scar obovate. Pallial line well defined, pallial sinus diminutive. Internal margin weakly but densely crenulate. Externally white with two broken radial orange rays extending medially to ventral margin, lunule and escutcheon with rose stitch pattern crossing both valves. Internally glossy white, rose posteriorly.

Remarks

The more triangular shape and narrower angulate posterior margin distinguish *C. ziczac* from *C. suduirauti* (Fig. 2*A–C*), which is of similar size and shape. *Crassatina picta* (Fig. 2*J–L*) and *C. corrugata* (Fig. 3*A–C*), although similar in shape, can be separated by the very coarse concentric ribs and smaller size in *C. picta* and oblique, corrugated ribbing in *C. corrugata*.

Crassatina picta (Adams & Reeve, 1850).

Figs 1*J–L*, Table 4

Crassatella picta Adams & Reeve, 1850: 82, pl. 23, fig. 6.

Material examined

Type material. Philippine Islands. Syntype figured by Reeve, here selected as lectotype BMNH 1996439/1 (Fig. 2*J–L*). Unfigured syntypes, same data as lectotype BMNH 1996439/2–5 (4pv).

Table 4. Shell dimensions of type material of *Crassatina picta* (Adams & Reeve, 1842)

	Length (mm)	Height (mm)	Width (pv) (mm)
Lectotype			
BMNH 1996439/1	16.1	14.7	10.3
Paralectotypes			
BMNH 1996439/2-5	11.6	11.7	8.5
	11.1	9.7	5.9
	8.8	7.2	4.0
	6.5	5.5	3.2

Diagnostic characteristics

Shell length to 16.1 mm. Trigonal, solid; equivalve, equilateral, umbones inflated, centrally situated; prosogyrate; anterodorsal margin slightly longer than posterodorsal margin, both steeply sloping, rounded anteriorly, angulate posteriorly; ventral margin convex, sharply rounded at posterior termination; posterior margin vertically straight. Lunule long, lanceolate, radially striate, impressed. Ligament radially striate, impressed, oblique, defined by strong surrounding posterodorsal ridge. Sculpture of (15+) coarse, rounded, upturned concentric ribs, becoming obscure posteriorly; interstices of equal width. Anterior muscle adductor scar reniform, posterior adductor scar obovate. Pallial line well defined; pallial sinus diminutive. Internal margin obsoletely crenulate, stronger ventrally. Externally white with blotches and broken radial orange rays extending medially from umbones to ventral margin, lunule with a rose stitch pattern; escutcheon tan. Internally dull white, some rose posteriorly.

Remarks

The smaller size, widely spaced and fewer concentric ribs and greater inflation distinguish *Crassatina picta* from *C. ziczac* (Fig. 2*G–I*), *C. nana* (Fig. 3*D–F*), *C. pallida* (Fig. 3*G–I*), *C. banksii* (Fig. 3*J–L*), *C. suduirauti* (Fig. 2*A–C*) and *C. rikai* (Fig. 2*D–F*); the wider and non-corrugated concentric ribs distinguish it from *C. corrugata* (Fig. 3*J–L*).

Crassatina corrugata (Adams & Reeve, 1850)

Fig. 3*A–C*, Table 5

Crassatella corrugata Adams & Reeve, 1850: 82, pl. 23, fig. 7.

Material examined

Type material. Sooloo Sea, Voyage of the Samarang. BMNH 20010401, syntype, 1pv figured by Reeve and marked internally A, here selected as lectotype (Fig. 2*J–L*). Unfigured syntype, 1pv internally marked B, same data as lectotype.

Table 5. Shell dimensions of type material of *Crassatina corrugata* (Adams & Reeve, 1850)

	Length (mm)	Height (mm)	Width (pv) (mm)
Lectotype A			
BMNH 20010401(pt)	18.6	17.2	13.5
Paralectotype B			
BMNH 20010401(pt)	17.3	17.0	13.0

Diagnostic characteristics

Shell length to 18.6 mm. Trigonal, solid, equivalve, equilateral; umbones centrally situated, inflated, rounded, prosogyrate; anterodorsal margin slightly shorter than posterodorsal, both steeply sloping, rounded anteriorly, angulate posteriorly; ventral margin convex, sharply rounded at posterior termination; posterior margin vertically straight. Lunule short, lanceolate, radially striate, impressed. Ligament radially striate, short, impressed, defined by strong surrounding posterodorsal ridge. Sculpture of (40+) rounded, upturned, oblique, corrugated, concentric ribs; interstices of equal width. Anterior muscle adductor scar reniform, posterior adductor scar obovate. Pallial line well defined, pallial sinus diminutive. Internal margin crenulations obsolete, stronger ventrally. Externally white with dense blotches and broken zigzag patterns extending over whole surface; lunule and escutcheon with rose stich-pattern. Internally glossy white, some purple posteriorly.

Remarks

The corrugated concentric, oblique ribs and greater inflation distinguish *Crassatina corrugata* from *C. ziczac* (Fig. 2G–I), *C. nana* (Fig. 3D–F), *C. pallida* (Fig. 3G–I), *C. banksii* (Fig. 3J–L), *C. suduirauti* (Fig. 2A–C), *C. rikai* (Fig. 2D–F) and *C. picta* (Fig. 2J–L).

Crassatina nana (Adams & Reeve, 1850)

Fig. 3D–F, Table 6

Crassatella nana Adams & Reeve, 1850: 82, pl. 23, fig. 2.*Material examined*

Type material. Eastern Seas (Indo-West Pacific). Voyage of the Samarang, BMNH 1878.10.16.8: 1pv. Notes with material borrowed from the BMNH dated 8.9.99 state 'None of these match the figure (pl. 23, fig 2) for size or patterning (*trifasciata* stated in description) may not be this species at all'. Another label, '... 878.10.16.8 is the registration number for 8 species donated by J.G. Jeffreys. The specimen supposedly marked 'MC' is not with this lot and has not been found therefore we believe this is not type material. Sept 2001. J.P.' (= Ms Joan Pickering, curatorial assistant, BMNH). However, in the absence of type material, and after examination of the available material and comparison with Reeve's figure and description, the specimen marked internally 'A' (figs 2D–F) is here selected as a neotype in accordance with ICZN (1999) 75.3.2–4.

Diagnostic characteristics

Shell length to 16.8 mm. Elongate-triangular, solid, equivalve, inequilateral, umbones situated slightly anterior of centre; narrow, prosogyrate; antero- and posterodorsal margins approximately equal size, moderately sloping, rounded anteriorly, angulate posteriorly;

Table 6. Shell dimensions of type material of *Crassatina nana* (Adams & Reeve, 1850)

	Length (mm)	Height (mm)	Width (pv) (mm)
Neotype			
BMNH 1878.10.16.8	6.6	14.3	6.1
Specimen marked A			
BMNH 1878.10.16.8	14.5	12.8	5.4
Second specimen in lot of six unpaired valves	9.1	8.0	1.7

ventral margin broadly convex, sharply rounded at posterior termination; posterior margin vertically straight. Lunule lanceolate, narrow, radially striate, impressed. Ligament narrow, radially striate, impressed, defined by strong surrounding posterodorsal ridge. Sculpture of (26+) rounded, upturned concentric ribs; interstices of equal width. Anterior adductor scar reniform, posterior adductor scar ovate. Pallial line well defined, pallial sinus diminutive, internal margin with ill-defined crenulations. Externally pale brown. Internally off-white, pale brown medially.

Remarks

The more elongate shape and narrower profile distinguish *Crassatina nana* from the more triangular *C. corrugata* (Fig. 2A–C), *C. ziczac* (Fig. 2G–I), *C. picta* (Fig. 2J–L), *C. suduirauti* (Fig. 2A–C) and *C. rikai* (Fig. 2D–F). *Crassatina nana* can be distinguished from the larger *C. pallida* (Fig. 3G–I) and equally small sized *C. banksii* (Fig. 3J–L) by its more angulate, straighter posterior margin (widely convex in *C. pallida*, narrowly convex in *C. banksii*).

Crassatina pallida (Adams & Reeve, 1850)

Fig. 3G–I, Table 7

Crassatella pallida Adams & Reeve, 1850: 82, pl.23, fig. 9.

Material examined

Type material. China Sea, Voyage of the Samarang. Syntype figured by Reeve here selected as lectotype (Fig. 3G–I) BMNH 20010402 (1pv).

Other material examined. Same data as syntype, with the notation ‘A non-type specimen 1878.1.28.35 was removed from this board and put in general collection. Sept. 2001’. This specimen, BMNH 1878.1.28.35, has not been found.

Diagnostic characteristics

Shell length to 28.0 mm. Elongate-ovate, solid, equivalve, inequilateral; umbones moderately inflated, situated one-third anteriorly, prosogyrate; anterodorsal margin short sloping, widely rounded at ventral termination; posterodorsal margin slightly convex narrowly rounded at posterior termination; posterior margin very slightly convex, upright, sharply rounded at ventral termination; ventral margin widely convex. Lunule lanceolate, narrow, radially striate, impressed. Ligament narrow, radially striate, impressed, wider on right valve, defined by strong surrounding posterodorsal ridge. Sculpture of (35+) upturned concentric ribs, interstices wider. Anterior muscle adductor scar reniform, posterior adductor scar obovate. Pallial line well-defined, pallial sinus diminutive, internal margin with ill-defined crenulations, stronger ventrally. Externally dirty white. Internally glossy white.

Table 7. Shell dimensions of type material of *Crassatina pallida* (Adams & Reeve, 1850)

	Length (mm)	Height (mm)	Width (pv) (mm)
Lectotype BMNH 20010402	28.1	22.5	15.5

Remarks

The more elongate and less triangular profile distinguish *Crassatina pallida* from the triangular *C. corrugata* (Fig. 3A–C), *C. ziczac* (Fig. 2G–I), *C. picta* (Fig. 3J–L), *C. suduirauti* (Fig. 2A–C) and *C. rikai* (Fig. 2D–F). *Crassatina nana* can be distinguished from the smaller *C. pallida* (Fig. 3G–I) and *C. banksii* (Fig. 3J–L) by its greater inflation and wide, slightly convex posterior margin (angulate posterior margin in *C. nana* and narrowly convex posterior margin in *C. banksii*).

Crassatina banksii (Adams & Angas, 1863)

Fig. 3J–L, Table 8.

Crassatella banksii Adams & Angas, 1863: 5: p. 427, pl. 37, fig. 16.

Material examined

Type material. Banks Straits, Tasmania, BMNH 1870.10.26.36 (1pv).
Figured syntype here selected as lectotype (Fig. 3J–L).

Diagnostic characteristics

Shell length to 16.3 mm. Elongate–triangular, thin, equivalve, slightly inequilateral; umbones compressed, situated anterior of centre, prosogyrate; anterodorsal and posterodorsal margins of approximately equal size, moderately sloping, widely rounded anteriorly, angulate posteriorly; ventral margin widely convex, sharply rounded at posterior termination; posterior margin vertically straight. Lunule lanceolate, narrow, radially striate, impressed. Ligament narrow, radially striate, impressed, defined by strong surrounding posterodorsal ridge. Sculpture of (26+) rounded, upturned concentric ribs becoming oblique after posterior fold. Interstices narrower than ribs. Anterior muscle adductor scar reniform, posterior adductor scar obovate. Pallial line obscure, pallial sinus diminutive, internal margin weakly crenulate, better defined ventrally. Externally dirty white with two obscure radial light-brown rays medially. Internally glossy-white.

Remarks

Crassatina banksi can be distinguished from *C. nana* (Fig. 3D–F) and *C. pallida* (Fig. 3G–I), which are similar in profile, being more elongate and less triangular than the other species in the genus, by the narrowly convex posterior margin and oblique concentric sculpture at the postero-umbonal fold (posterior margin straight in *C. nana* and widely convex in *C. pallida*) and sculpture (26+ continuous concentric ribs in *C. banksi*, 35+ in *C. pallida*).

This species has apparently not been recollected in Tasmania or Bass Strait and may well be mislocalised. The other small southern Australian crassatellids are less elongate.

Table 8. Shell dimensions of type material of *Crassatina banksii* (Adams & Angas, 1863)

	Length (mm)	Height (mm)	Width (pv) (mm)
Lectotype BMNH 1870.10.26.36	16.3	12.0	6.4

Key to species

1. Shell with oblique sculpture2
 Shell without oblique sculpture3
2. Oblique sculpture over entire external surface. *Crassatina corrugata*
 Oblique sculpture posteriorly. *Crassatina banksii*
3. Shell triangular, umbones centrally situated4
 Shell not triangular, umbones situated anterior of centre7
4. Ventral margin steeply sloping posteriorly.6
 Ventral margin evenly rounded, not sloping posteriorly5
5. Interstices narrow, concentric ribs narrow *Crassatina ziczac*
 Interstices wide, concentric ribs coarse *Crassatina picta*
6. Shell with posterior coloured radial ray *Crassatina rikae*
 Shell without posterior coloured radial ray *Crassatina suduirauti*
7. Shell elongate-triangular, concentric sculpture coarse, even *Crassatina nana*
 Shell elongate—ovate, concentric sculpture upturned dorsally *Crassatina pallida*

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